NAVAL AVIATION
MICRO-SIMULATOR PART TASK TRAINER

Version 2.0

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Version 2.0

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PTT User Handbook

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Getting Started

Before you can install the Naval Aviation Micro-simulator Part Task Trainer CD-ROM you must first confirm your computer meets the basic system requirements, and has Microsoft^{TM} Flight Simulator 2002 installed on your PC.

T he Micro-simulator Part Task Trainer 2.0 (PTT 2.0) CD-ROM is designed to assist Naval Aviators and student Naval Flight Officers in developing spatial-orientation and instrument scan as they proceed through Naval Aviation Training.

The Micro-Simulator Part Task Trainer is essentially a shell program that acts like a "library" which allows you to launch flights and videos in Microsoft™ Flight Simulator. The PTT 2.0 allows the user to view a demonstration video, fly a flight, and if desired to subsequently view a flight analysis. Familiarization flights, airways navigation, basics communication skills (ATC), visual navigation, aerobatics, and formation (multiplayer) are all available on the PTT 2.0.

I C O N   K E Y

✪   Valuable Notes

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The shell is a Microsoft™ Access database driven application that can be modified to suit the needs of multiple platforms. Along with the shell (Micro-Simulator Part Task Trainer.exe), there are two applications provided that will allow you to modify parameters of the shell-database.

If you intend to create your own flights/videos to use with this shell and Microsoft™ Flight Simulator 2002, you will need to become comfortable utilizing both the shell and MSFS 2002. The process for creating your own flight scenarios/videos with this shell and Microsoft™ Flight Simulator 2002 will be discussed in Chapter 4 and 5.

💣※ ***Microsoft*^{TM} *Flight Simulator 2002 does not support Windows NT. Also, the minimum hardware requirements for Microsoft*^{TM} *Flight Simulator 2002 may be higher than the basic requirements for the PTT shell. Check the Microsoft Flight Simulator packaging for those requirements.***

PC Requirements for Installing

Your basic computer requirements are:

- Pentium II 300MHz MMX

- Windows 98 OS

- Microsoft™ Flight Simulator 2002 installed

- Sound card with game controller

- Joystick

- 64MB RAM

- SVGA monitor, with screen settings at least 1024X768 pixels, colors at "High Color (16 bit)"

- 3D graphics accelerator card with 32MB video RAM

A better system performance can be achieved with:

- Pentium 1.6GMhz or computer or better

- Windows XP (home/professional)

- Microsoft™ Flight Simulator 2002 installed

- Sound card with game controller

- Joystick with throttle and rudder pedals/twistable stick-controls

- 256MB RAM

- 19" SVGA monitor, with screen settings at least to 1280X1024 pixels, colors at "True Color (32 bit)"

- 3D graphics accelerator with 64MB or 128MB video RAM

PTT Installation

Before you can install the Naval Aviation Micro-simulator Part Task Trainer CD-ROM you must properly install Microsoft^{TM} Flight Simulator 2002 on your PC.

First install Microsoft^{TM} Flight Simulator 2002 (MSFS 2002) on your computer. It is vital you run the MSFS program at least one time to confirm the installation was successful. This also allows MSFS 2002 to set up its initial conditions within the program.

℧ *Refer to the MSFS 2002 software documentation for installation of the product. It is recommended that you use the default installation setup when installing MSFS 2002.*

☛ *Warning: If you have created any "flight videos" (*.FSR's) on your computer with MSFS 2002, you must copy and store them in a separate folder from the "my flights" folder. If you do not do this prior to the installation of this product your "flight videos" (*.FSR's) will be deleted.*

After MSFS 2002 is installed:

- Close all programs.

- Insert the PTT CD-ROM in the drive. After a moment the PTT setup program starts automatically. If the setup program does not start automatically, Autorun may be disabled on your computer, and you may need to manually start the PTT version 2.0 setup.

- To manually start the PTT setup from the CD, insert the CD in your CD-ROM drive, double-click the "My Computer" icon on the Windows desktop, double-click your CD-ROM drive, and double-click "Setup.exe" file.

- The PTT version 2.0 program should now begin the installation process.

- Follow the on-screen instructions. (It is highly recommended that you install all files and programs to their default locations for troubleshooting purposes).
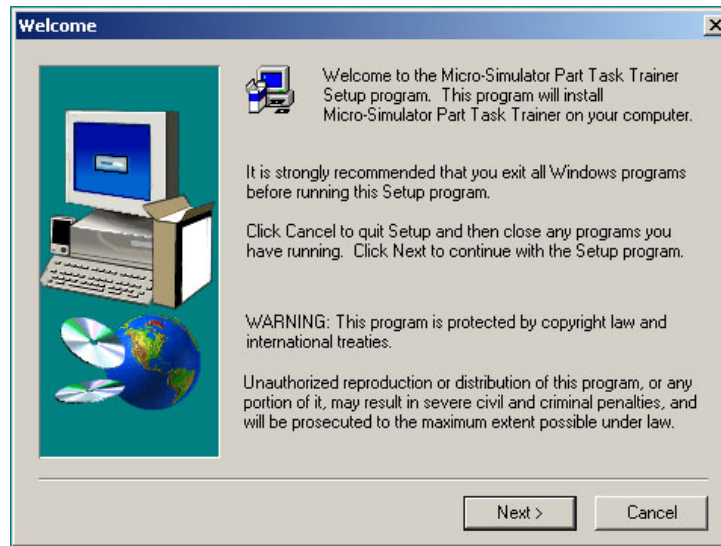
Figure 2.0

- If you do not have Microsoft™ Office programs you may wish to install the Wordveiwer.exe program so that all scenario "FTT" references remain accessible.

- Near the end of the installation you will be asked if you want to run the Flight Simulator Modification Program (See figure 2.1). It is important to run this program to select the default Aircraft and Airfield within MSFS 2002.

Figure 2.1

- After the initial PTT 2.0 installation process is complete, we highly recommend an immediate reboot of your system. Once the system reboot is complete PTT 2.0 is setup and ready for use.

- Numerous applications key to fully utilizing the PTT 2.0 shell are incorporated as a part of the installation process. "C:/Program Files/Micro-Simulator Part Task Trainer." (See figure 2.2 for some of the important files installed by PTT 2.0).
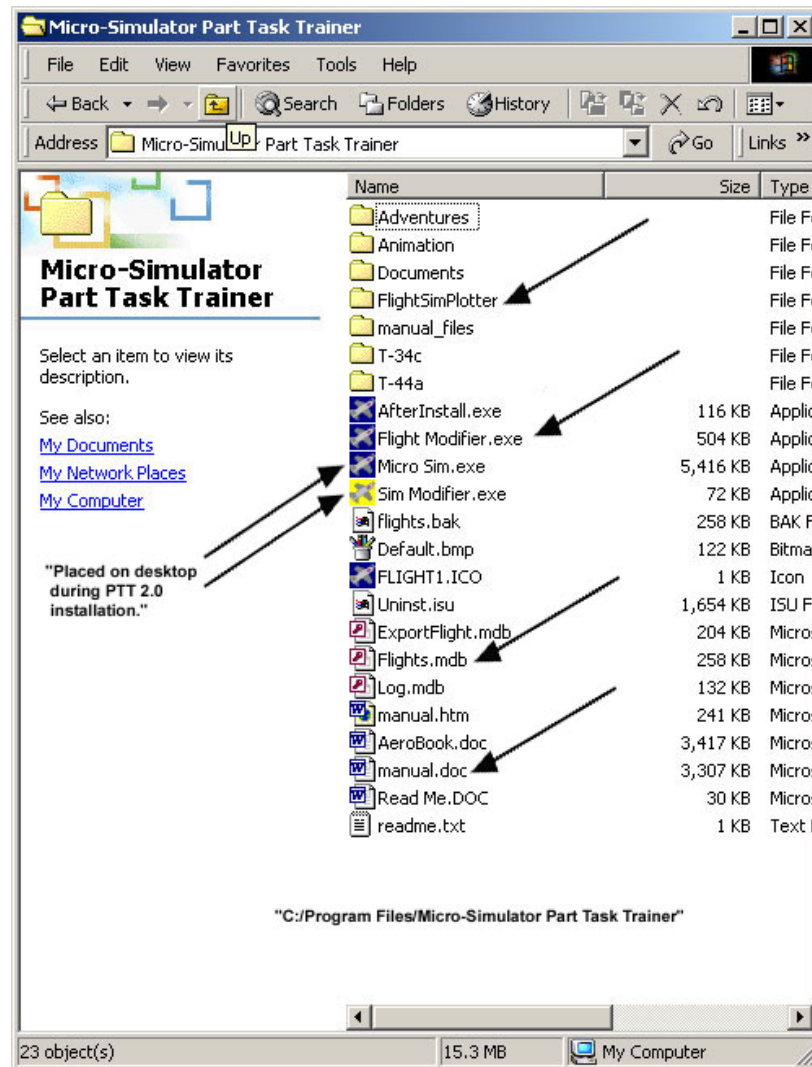

Figure 2.1

Problems on Installation

Monitor Display Graphics & the PTT Shell Need to Match

Another potential problem area arises from the display settings on the computer. Best results are achieved when the computer display settings are at between 1280 X 1024 pixels and 1024 X 768

✪ To check the display settings go to the desktop, place your cursor in a blank-area and right-click. Select "Properties" from the dialogue box and then select the "Settings" tab to see your display settings.
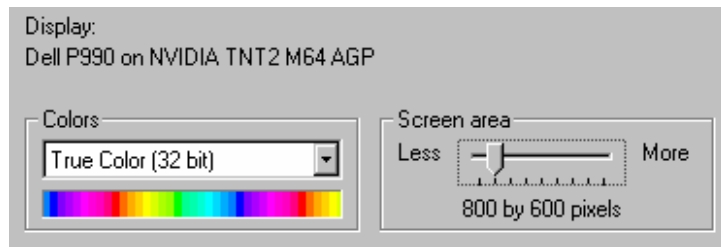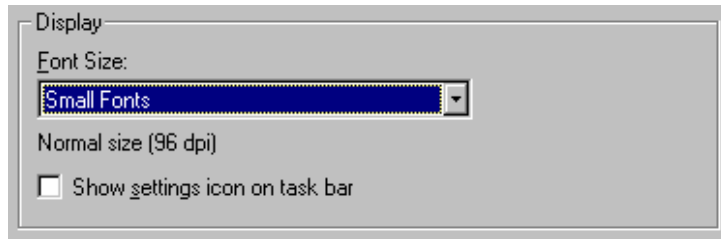
Figure 2.1

Figure 2.2

☃ FIGURE 2.2 - select the "Font Size" which best suites your visual needs.

The shell program is designed to work in a display area ranging from 1024 X 768 pixels to 1280 X 1024 pixels, using 16 bit colors. Sometimes text sizes and display areas are customized to user preferences and this has the potential to cause the shell graphics to appear misaligned with text in the wrong places. This can be corrected by adjusting the display settings as shown here. If the shell looks unusual, close it, adjust the settings as shown, and restart the shell.

The PTT shell version 2.0 does require a specific range of pixel-resolution and color settings

If the System Appears to Freeze Up on installation

You might have other applications running. Make sure you close all applications, uninstall the PTT version 2.0 shell, and try re-installing the CD.

Using the PTT Shell

To use the Naval Aviation Micro-simulator Part Task Trainer Version 2.0 program you will need to properly configure the SimModifier.Exe file to select which Aircraft and associated field you wish to use.

Figure 3.1

Before you begin using the PTT shell program, first click the "SimModifier.exe" icon on your desktop. This file is also located in the main "MicroSim Part Task Trainer" folder on your hard drive.

The first program you should access for the PTT 2.0 program is the "SimModifier.exe" file (see Figure 3.1). This program will allow you to confirm that the PTT 2.0 shell's various settings, are correct; particularly, that the aircraft and associated field are correct.

✪ **The SimModifier** program permits the user to customize the shell and its scenarios for his or her use.

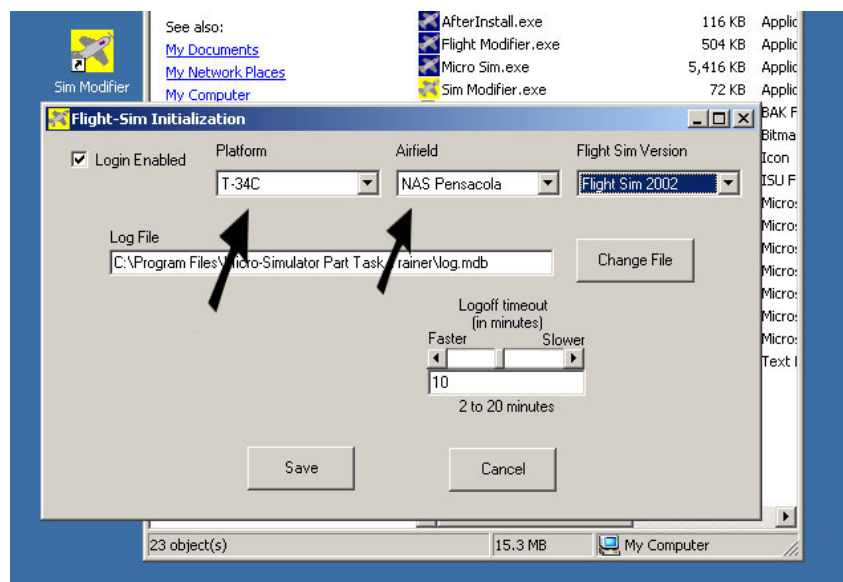Select the Aircraft Platform and associated Airfield with which you wish to train.

Figure 3.1

✪ *When the PTT CD-ROM completes the installation, two program icons for the PTT shell application will be placed on your desktop (SimModifier.exe and MicroSim Part Task Trainer.exe).*
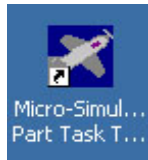
To start the shell program, double-click on the "MicroSim Part Task Trainer.exe" icon to start using the PTT shell program.

Figure 3.3

The shell program will prompt the user to log in. The log in screen asks for your first and last initials with the last four digits of your Social Security Number, last name with first and middle initials. (See figure 3.4)

Figure 3.4

If this is your first time using the system, you will get an error code saying, "user not found, create new user?" Select <u>yes</u> and the shell will activate the new user account

✎ CNET recommends that all student naval aviators leave the shell log in function activated. Student data will be harvested periodically for evaluation and the log function has to be active in order to provide a complete picture of usage patterns for analysis. However, if needed, there is a way to modify the shell so that the log in is not required in the SimModifier.exe file.

Once the log in is complete, the PTT shell will initialize, and the user will be presented with an opening screen similar to that shown in Figure 3.5:

Figure 3.5

The shell is based on a "library" of flight scenarios, organized by airfield, phase and stage of training. To use the shell, check to see if the default airfield is satisfactory for the aircraft platform selected in the "SimModifier.exe" program.

When an "airfield" selection is made, all of the "stages" associated with the default platform at the specified airfield will appear in the "stages" box. Move your cursor over a stage and left-click the mouse to select it. This action will cause the associated phases to appear. Select a phase by moving the mouse cursor over your choice and left clicking. All the flights associated with that phase appear on the right in the flight scenario area.   Finally, move the cursor over a "flight" scenario and left-click the mouse to select it, and obtain the options and descriptions for that specific scenario.

✪ **FlightModifier.exe** importing & exporting flight scenarios will be discussed later.

Selecting a Flight Scenario and
A Flight Video or Reference

The screen in Figure 3.6 was based on selecting "Corpus Christi", "Contact", and "T-34C Break, Home Field Entry." You will notice that under the "References" section at the base of the display, the hyper-linked text "FAM FTI" and "VFR CR" appears.

To view a curriculum reference, move the cursor over one of the titles and click. The shell will open the FTI section for you to read and review. Close the FTI or CR reference before you return to the shell.

Figure 3.6

    ✎ *It is recommended that student Naval Aviators and student Naval Flight Officers first read the flight technical instructions (FTI) and course rules (CR) references before viewing the demonstration video or flying the scenario.*

To view a flight video, move the cursor over "Demonstration Video" and click. This will activate MSFS 2002 with the appropriate initial scenario settings, and then load the corresponding video.

If you had selected **"FAM FTI para 704-707"** as shown in Figure 3.6, the following is an extract of the FTI reference describing "the break" procedure that would be launched in an MS Word Viewer.

℗ *Remember to close the Word Viewer reference before returning to the shell.*

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704. THE BREAK

     a. DESCRIPTION. The outlying field break is a series of procedures to transition the aircraft from fast cruise configuration to the downwind configuration and positioning the aircraft on the downwind leg. Refer to Figure 7-2.

     b. GENERAL. The following procedures will prepare the aircraft for landing at a field.

     c. PROCEDURES

Establish the proper interval. Consult your local course rules for proper intervals for other types of aircraft.

With interval, execute the break in accordance with local SOP.

Roll into a 30° AOB (TW-5)/45° AOB (TW-4) turn and maintain altitude.

Reduce power to 300 ft-lbs torque.

Verbally confirm airspeed below 150 knots on ICS prior to the pilot at the controls lowering the landing gear.

Halfway through the break turn, adjust the angle of bank to establish a 3/4 wingtip distance on downwind.

Slow to 100 knots, maintaining altitude, trimming right rudder and up elevator for deceleration.

If you had selected "FAM FTI para 704-707" as shown in Figure 3.6, the following is a diagram of "The Break" from the referenced FTI. (cont'd)

✂ *Remember to close the Word Viewer reference before returning to the shell.*

NOTE:
TW-4; Break 45°AOB "Pattern side" @ 1000' AGL
TW-5; Break 30°AOB "Opposite pattern side" @ 1100' AGL

Slow to 100 KTS
(while maintaining Alt)

Break Alt
170 KTS

Break Alt
100 KTS

Decend

800' AGL
100 KTS
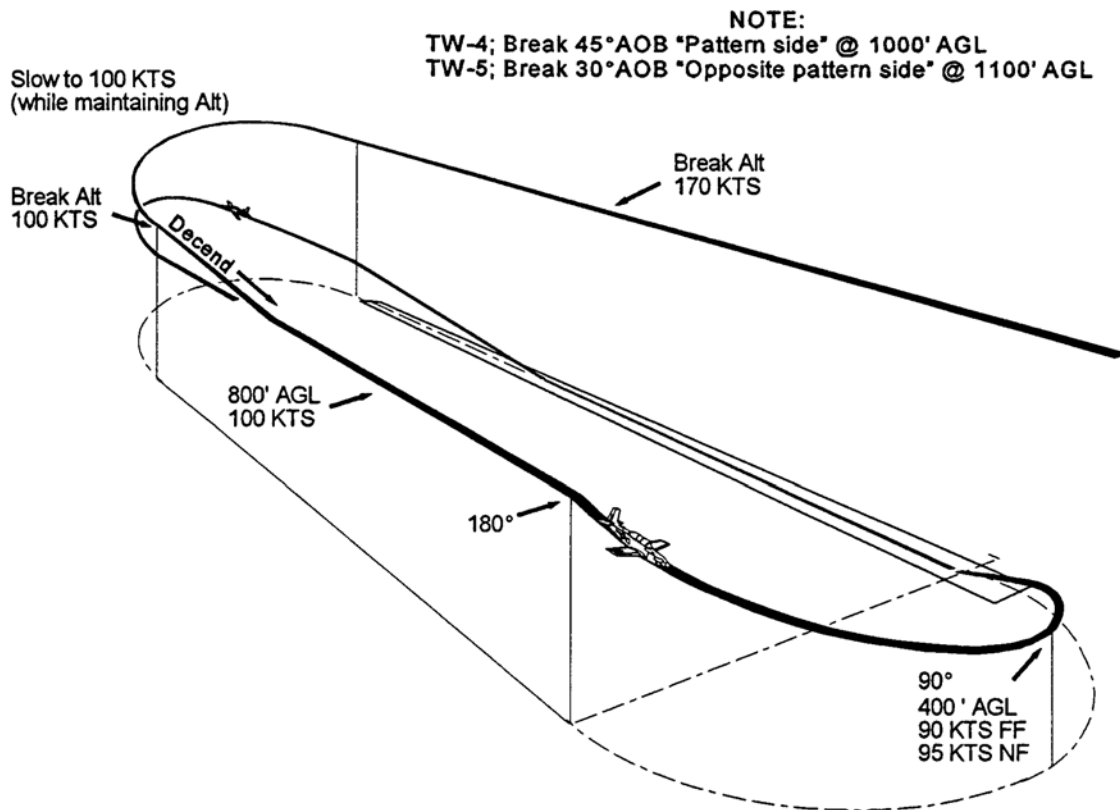
180°

90°
400 ' AGL
90 KTS FF
95 KTS NF

Figure 7-1
"The Break"

Selecting a Demonstration Video

There are two possible formats for demonstration videos. The first are demonstration videos containing audio-tutorials, and the second-type of videos are visual-only demonstrations.

MSFS 2002. The video formats for flight scenario demonstration videos are called "FSR's". When the shell loads a Flight Video (*.FSR) it will first load and initial condition related to the flight video and then the flight video itself.

Many demonstration videos for MSFS 2002 are flown with instructional cues via ".WAV files" activated by a **switch** located in the upper portion screen. These sound files help walk the user through the flight scenario, and its critical procedures, events, and points of focus.

Figure 3.7

✪ **To use the MSFS 2002 tutorial videos, you must select the "sound switch" to synchronize the audio to the video. (See figure 3.8 for an example of the current "audio" switch)**

Figure 3.8

☃ *With MSFS 2002, you <u>can</u> hit the ESCAPE button to "take over" a flight scenario during a demonstration video, and you will be given control at that point with the flight readied and paused (Press P to un-pause).*

Flying a Flight Scenario. "FLY" IT

When you have completed the demonstration videos and you are ready to proceed, select the "Fly" button to activate the flight scenario. (See Figure 3.9)

 The PTT 2.0 shell will then initialize the flight and weather data, and will load MSFS 2002. The shell turns over control to MSFS when the initial conditions are set, and the flight scenario is now in the hands of the user.
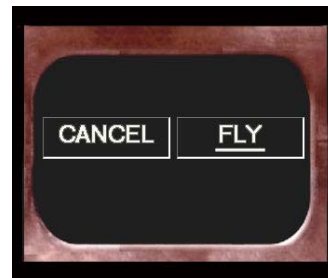

Figure 3.9

☻ *To return to the PTT 2.0 shell you will need to do one of the following.*

- Close MSFS.

- Press ALT+TAB to return to the shell program.

- Minimize MSFS.

- Select the shell program from the Task Bar.

☛ **Whenever trying to load different demonstration videos you will be required to completely close MSFS 2002 and return to the PTT 2.0 shell. If you do not close MSFS 2002 when trying to view different "Flight Videos" (*.FSR's) with the PTT 2.0 shell, it is possible MSFS 2002 will not recognize the new demonstration video.**

Modifying the PTT 2.0 Shell

*As you develop confidence and familiarity with the Naval Aviation Micro-
simulator Part Task Trainer Version 2.0 and the MSFS 2002 programs you
will eventually need to learn how to import and export additional flight
scenarios.*

Sim Modifier

There are two programs installed during the setup that will allow you to modify settings for the
PTT shell. The first program to be discussed is the "SimModifier.exe".

To access the "SimModifier.exe", double-click its icon on your desktop. The screen graphic in
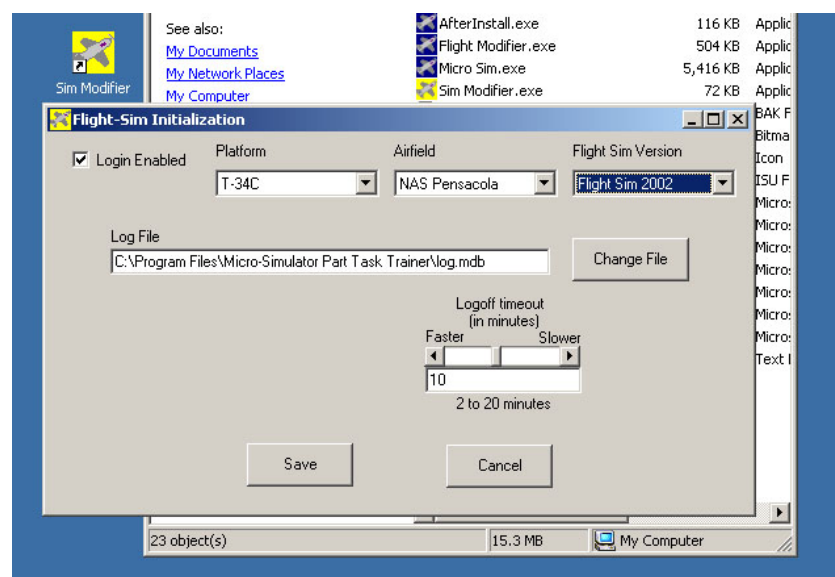Figure 4.1 would then be displayed:

Figure 4.1

This "SimModifier.exe" program will allow you to change the settings for the Micro-Simulator PTT 2.0 shell. This permits you to alter the "Platform" to whichever aircraft is appropriate for your training, and then select the associated airfield.

⚟ *You can also change the length of inactive time to automatically log off a student, the log file location, and whether the flights are logged at all.*

⚟ *Although this SimModifier is now located on the desktop, another way to run this program is to go to "Start" from the desktop taskbar, select "Run" and then browse to select "C:\Program Files\Micro-Simulator Part Task Trainer\SimModifier.exe".*

⚟ **When you use this program, there are changes made to the Windows registry; therefore, the changes you make here will be remain effect the next time you load the Micro-Simulation PTT 2.0 shell program.**

Flight Modifier

The second "modifier" program available with the shell is the "Flight Modifier.exe" program.

The "Flight Modifier.exe" application permits the user to edit, delete, or add flights to the flights database used by the PTT shell. The flights database is the storage location for all the information pertaining to the flights created for the PTT 2.0 shell.

The Importing and Exporting of flights should be solely accomplished through this program.

Within the Flights Database there are 6 basic tables:

The Airfield, the Platform, the Stages, the Phases, the Flights, and the References. **(See Figure 4.2)**

These tables contain all the information on the order of flight scenarios, the exact files to access, and the display information for the Micro-Simulation PTT 2.0. The "Flight Modifier.exe" program will allow you to easily modify this database. The Flight Modifier program is located in the Micro-Simulation Part Task Trainer directory.

The Flight Modifier program is to be used when adding: aircraft platforms, flight scenarios, videos, and curriculum references.

✎ **When run, the Flight Modifier program copies the flights database data to a file called "flights.bak." However, running the program several times will overwrite this file. It is therefore recommended that you keep a copy of the original Flights database before attempting to modify it.**

To run the "Flight Modifier.exe" program, go to "Start" from the desktop taskbar, select "Run" and then "browse" to select "C:\Program Files\Micro-Simulator Part Task Trainer\FLIGHT MODIFIER.EXE".   Select OK to run the program.
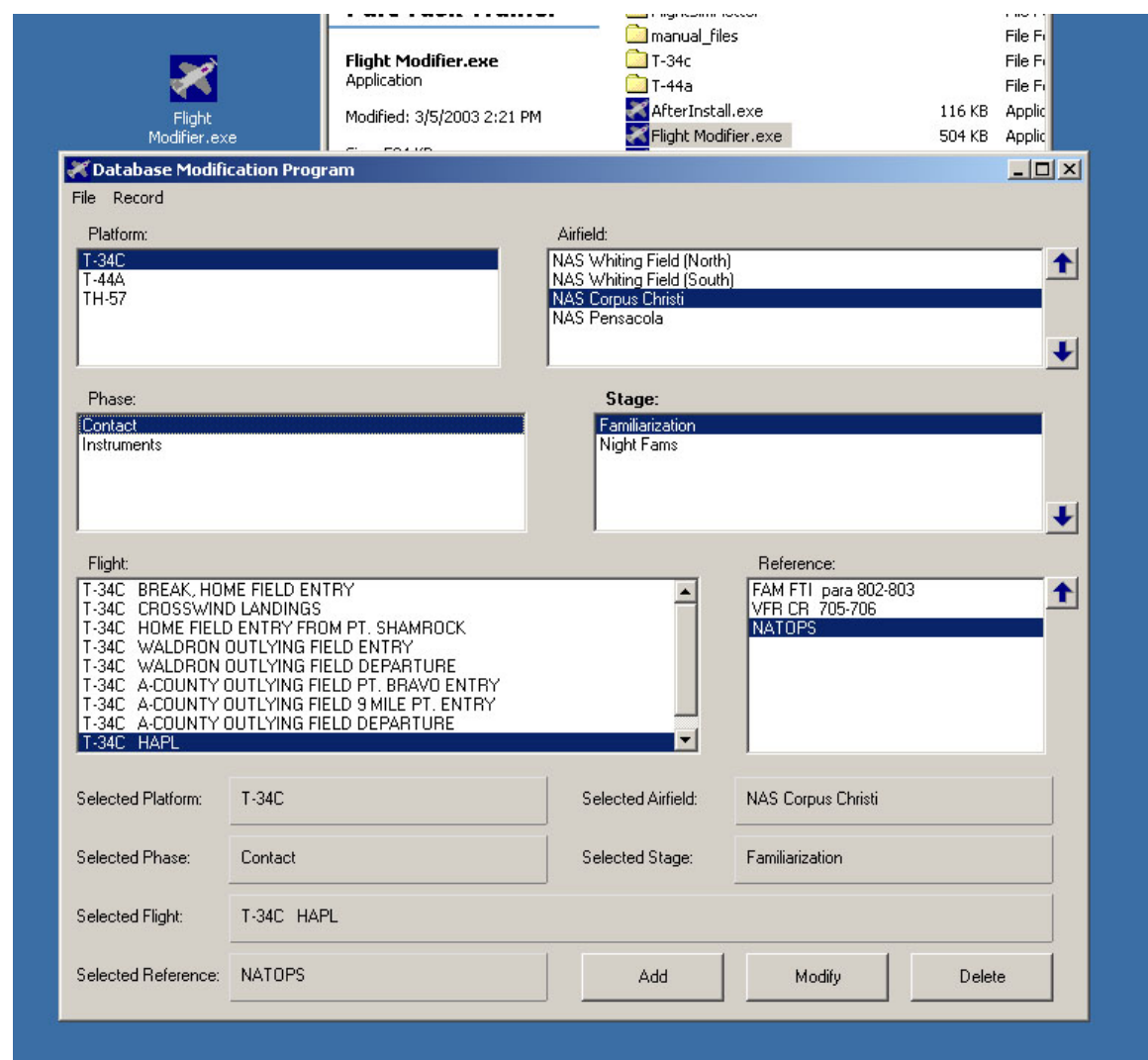
The Flight Modifier Program Screen Graphic (Figure 4.2):

Figure 4.2

☛ *All additions and modifications to "flights.mdb" file and correspondingly to the menus of the PTT 2.0 shell should be accomplished through the "Flight Modifier.exe" program.*

To add a aircraft platform or an airfield, the user may select the "Add" button at the bottom of the screen, or from the "Record" menu select add. With Platforms and Airfields created you can then create "stages" and "phases" to appropriately classify when and where the "flight scenarios" take pace during a students training.
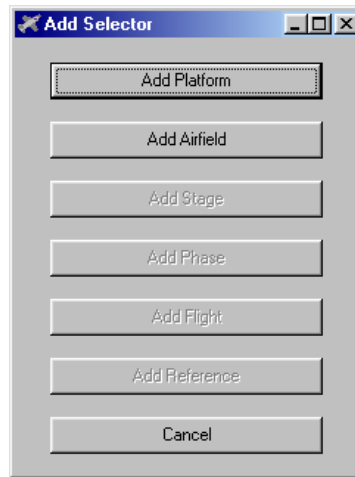

Figure 4.3

The dialog box in Figure 4.3 will be displayed to add a platform. (Notice several of the options are disabled until the platform/airfield are created. As more platforms, stages etc… are selected more options will become available.)

For example, on the screen in Figure 4.4, you would type TH-57 in the platform line. To create a new TH-57 platform within the PTT 2.0 shell.
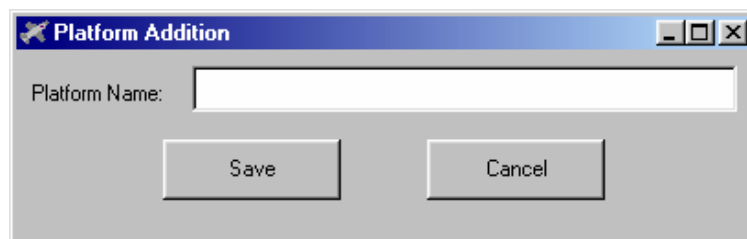

Figure 4.4

✪ **Once you have selected a platform and an airfield, you can then add/modify/delete stages, phases, flights, and references.**

To add stages, phases, flights, or references, follow similar procedures for adding a new platform and fill in all of the required information. For example you may right-click on the "Stage" list box and select the "Add" button from the bottom of the screen, or select record.
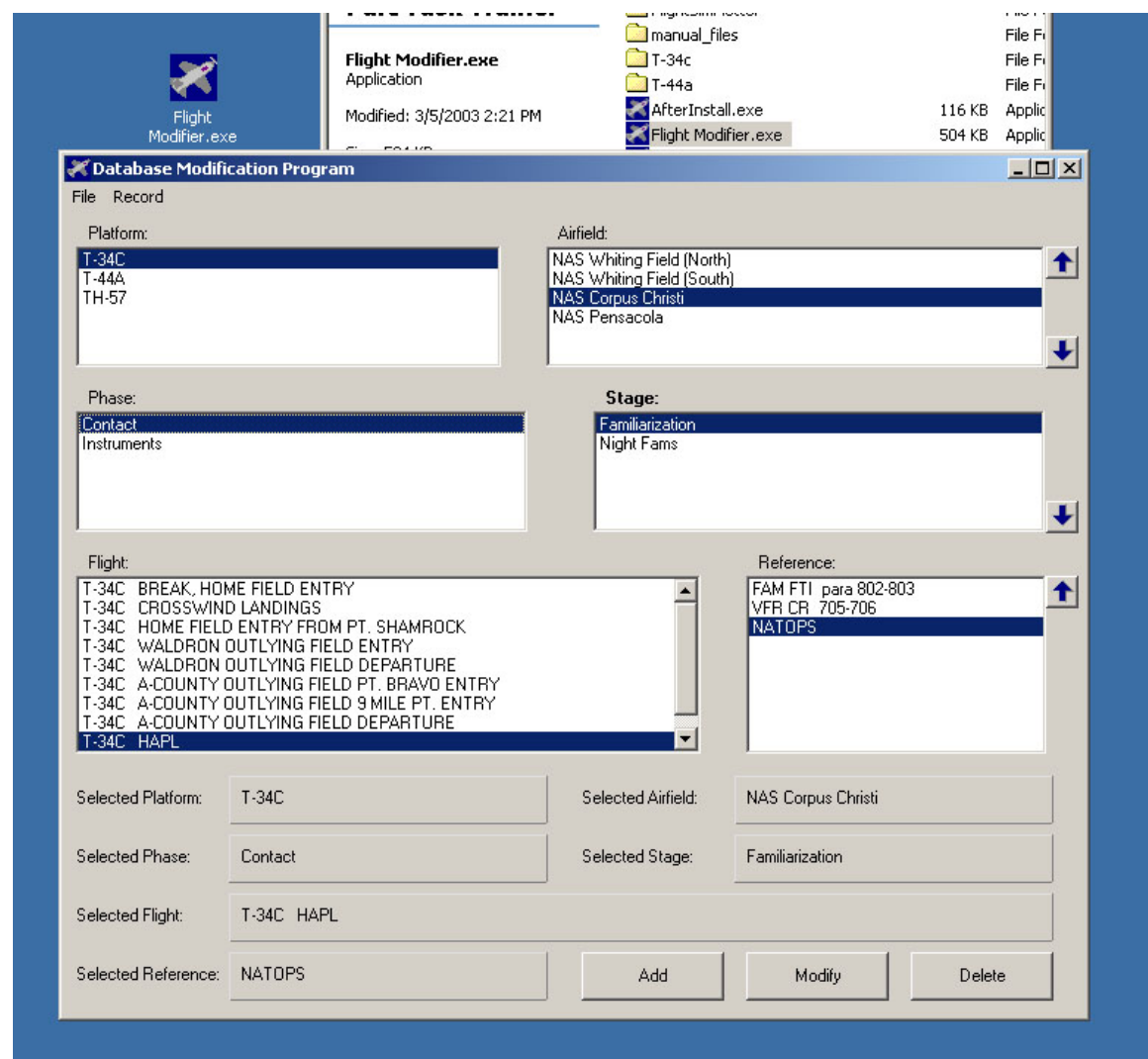

Figure 4.5

The PTT shell displays all of the "stages" and "phases" in an order according to the airfield listed in the flights database.

☝ *To change the order in which the stages are displayed, select the specific stage and then select one of the blue arrows to the right of the list box to change the display order. (See figure 4.5)*

Adding a Flight Scenario

Flights are the core of the PTT shell. To change the display order, select a flight and use the blue up/down arrows to the right of the Flights list box.

To add, modify, or delete a flight, follow the same procedures as for platforms and stages. When you add or modify a flight you will see the screen depicted in Figure 4.7.
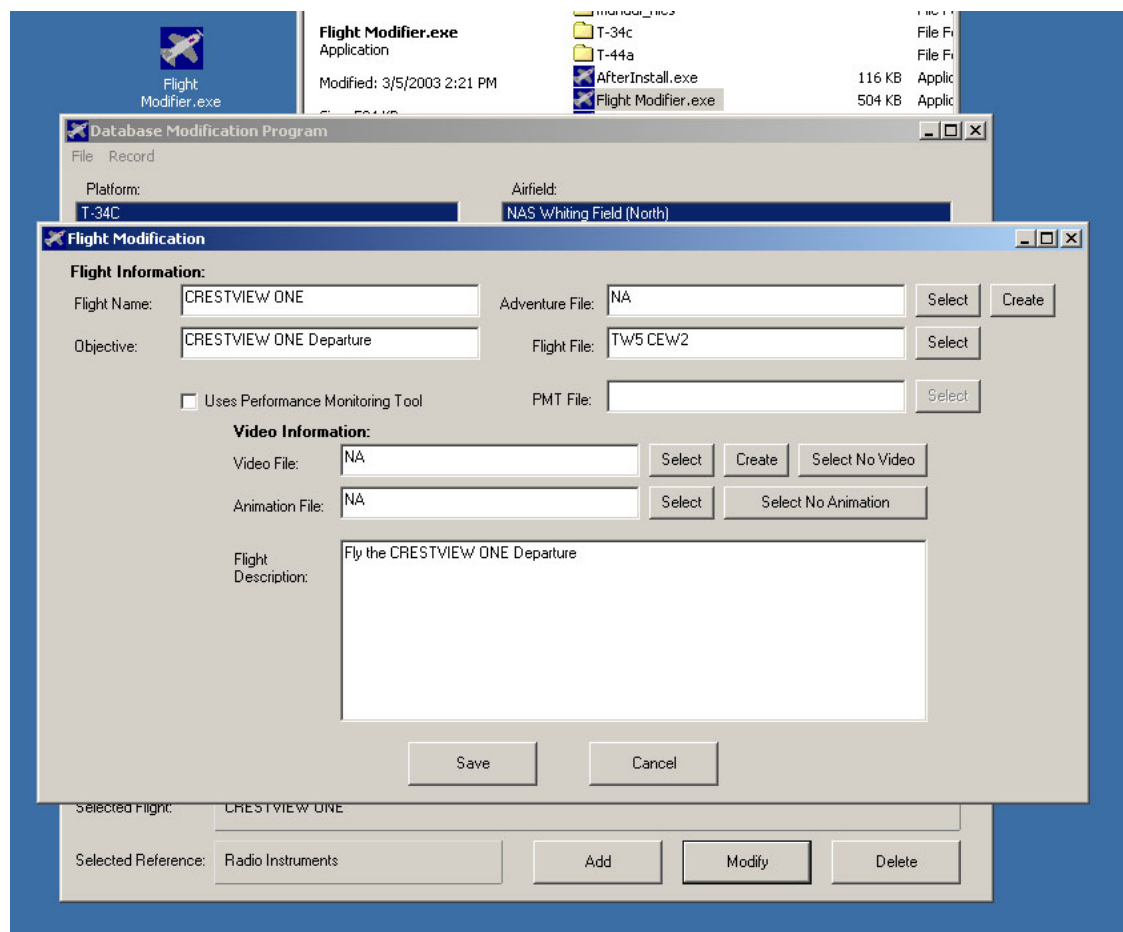

Figure 4.7

☛ *You must get the "flight" file and "flight video" file correct in order for the flight and/or videos to function properly. When creating a flight-scenario, you will need to select a "Flight" (*.FLT) File from the "myflights" or "pilots" folders in the MSFS 2002 main directory.*

You will need to fill in the Flight-Scenario File name. You are able to make any modifications to the Flight-Scenario File text description you need.

From here select "Save" and you have a new flight scenario for the student.

Adding a Flight Video

If you wish to add a "flight video" you must use the "Select" button next to the "video file" text box.   For a video, you will need both a "Flight" File (*.FLT) and a Video File (*.FSR).

☛ **For videos and flights to work with Flight Simulator 2002, be sure that the flight file and "flight video" (*.FSR) file have data. These Flight Video files are first created within the MSFS 2002 program (See Chapter 5 for details on creating a Flight Video).**

After selecting a Flight File (*.FLT) and clicking select for a "flight video" file, you will be shown the screen depicted in Figure 4.8. This is an example of a video creation screen.
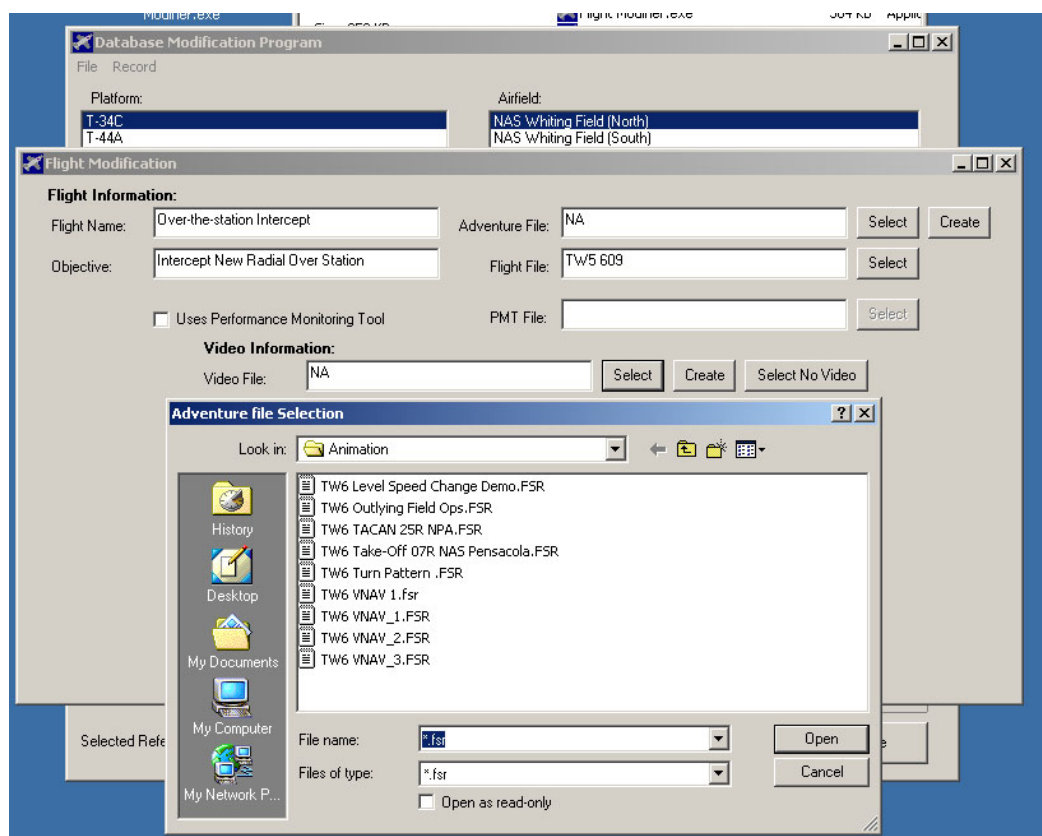

Figure 4.8

Chose the appropriate "Flight Video" file (*.FSR), and then from here select "Open" and now when you have "Saved" the new flight scenario for the student a "Flight Video" file will automatically be accessible from within the PTT 2.0 shell. (See figure 4.9)

Figure 4.9

☞ *Again, these Flight Video files are first created within the MSFS 2002 program.*
(See Chapter 5 for details on creating a Flight Video)

References

Follow the same procedures as above to add, modify, or delete References. Once again, to change the order, use the arrows to the right of the References list box. This is particularly important when there are multiple "FTT" References documents regarding any one flight scenario. In many cases, "cutting and pasting" multiple references into one "*.doc" file may be more beneficial than having numerous separate reference files. (See figure 4.9)

✪ **Reference File are always a Microsoft™ Word document file ("*.DOC").**

When you add or modify a Reference the dialog graphic in Figure 4.10 will be displayed.
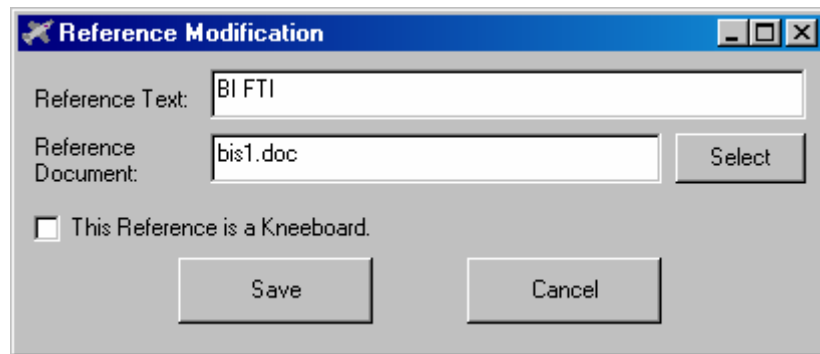

Figure 4.10

References are stored in the ".../Documents" sub-directory of the PTT shell directory. The checkbox for the Kneeboard will allow this document to be accessed from within Microsoft™ Flight Simulator by using the "Checklist" function.

✪ **You may only have one Kneeboard document per flight**.

If you choose to make a Reference a Kneeboard Reference, any previous Reference with the Kneeboard option selected will be de-selected. Also when you select a Reference as a Kneeboard document, an explanation is added to the description of the flight on how to access the document within Microsoft™ Flight Simulator.

Importing and Exporting Flights

☙ *In time, new and/or updated flights may be made available for download over the web.*

Importing. Flight Scenarios able to be imported are called "*.PTT" files, and often contain: flight situation data, weather data, reference files, and tutorials with demonstration videos. This Flight modifier program is programmed to put all of these "attached" files into their proper locations on your personal computer (PC) with very little work for the user.

To import a flight scenario, download the import file to your local computer. Open the Flight Modifier program, and select the File menu then select Import to begin the process. You will be prompted for a file to import.

Valid files will have an "*.PTT" extension. After browsing your PC make certain the correct file is selected, and click open. See Figure 4.11 for a screen depiction.
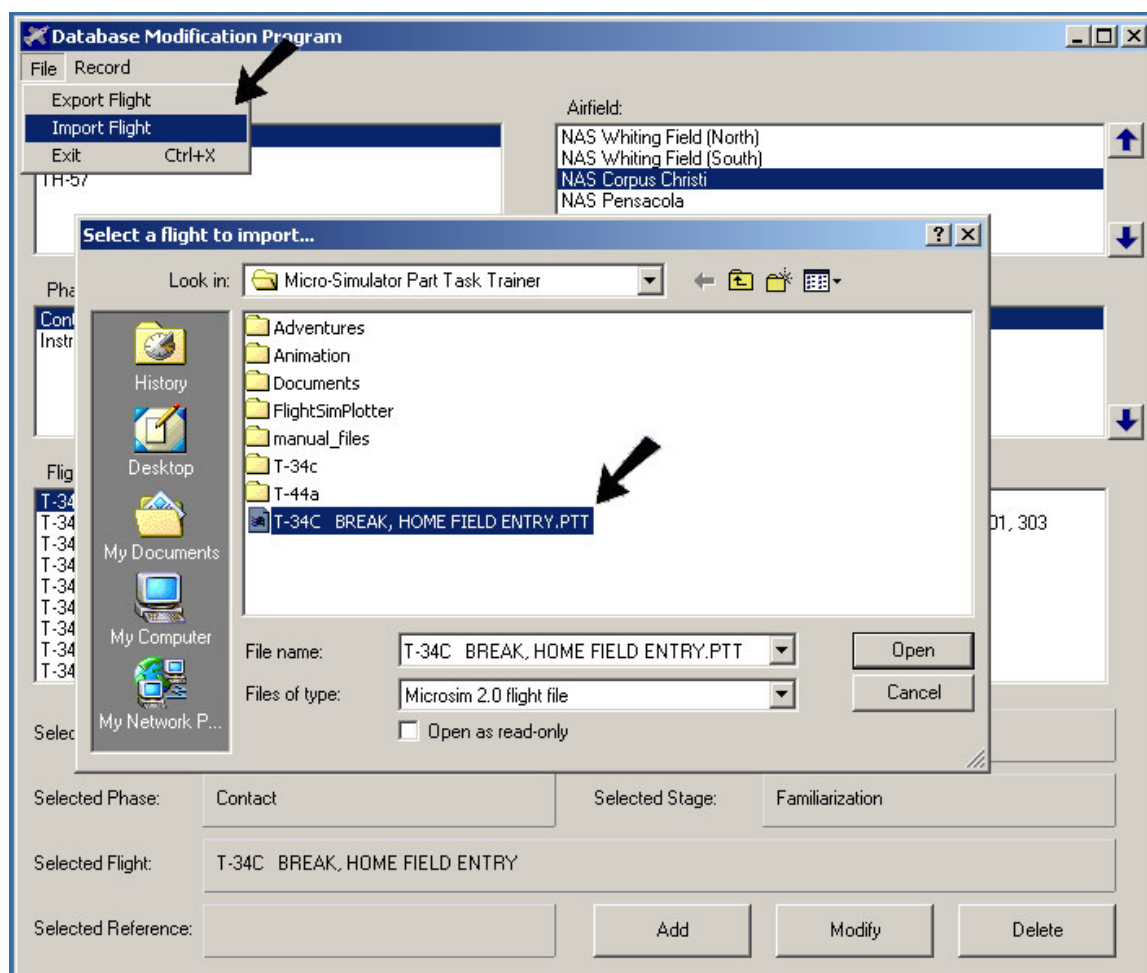

Figure 4.11

✪ The "Flight Modifier.exe" program will import the database portion and all of the files "attached" within the PTT file, and extract all attached files to the default locations they were exported from.

Exporting.   To make it possible for a flight scenario and associated files to be available for download or sharing, the first step is to use Flight Modifier to export the flight.

In the main Flight Modifier screen, select the desired flight to export. To continue, select the File menu, and then select Export. The next screen (figure 4.12) will show all of the settings for the flight to be exported.
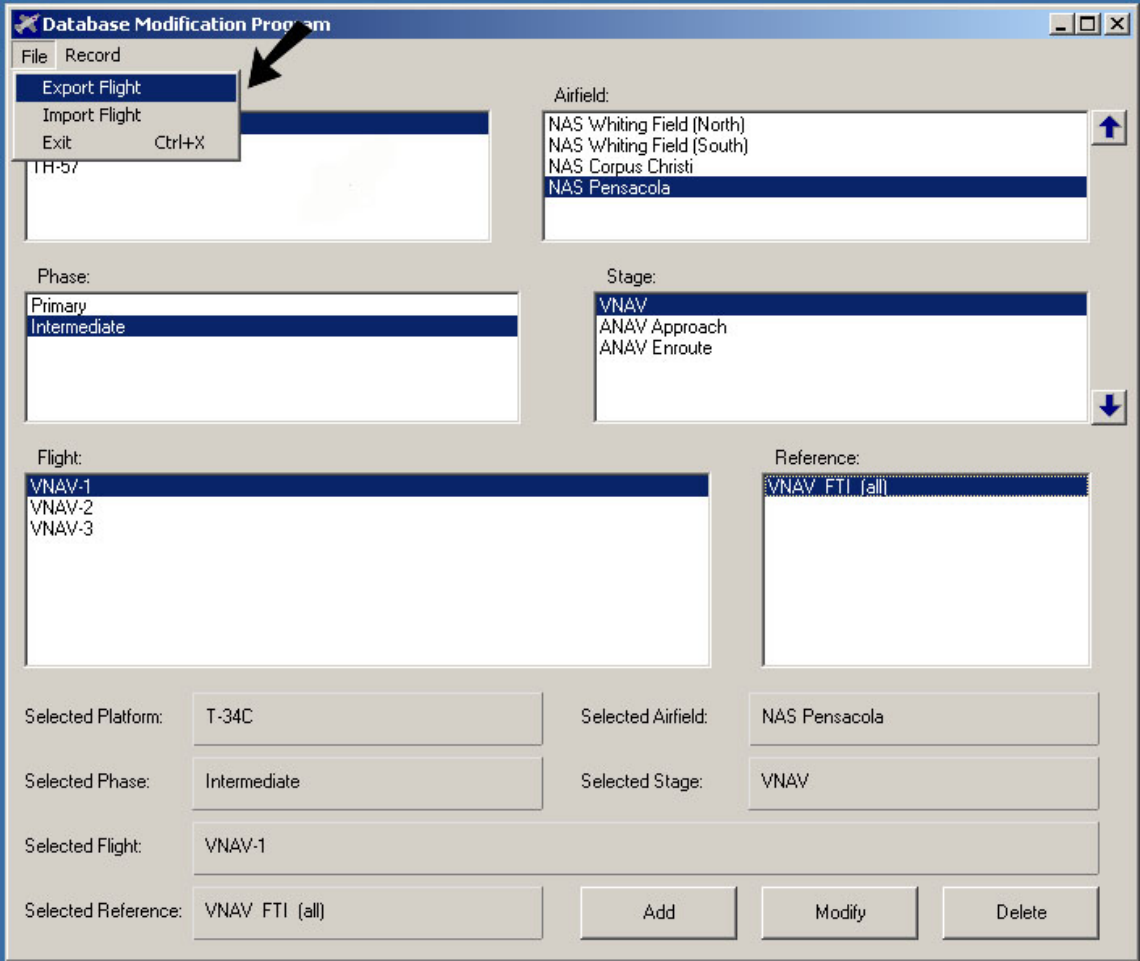

Figure 4.12

It is important the highlight both the flight scenario and the reference, to make certain that all of the basic default files are incorporated in the exported ".PTT" file. Know what files should be included with any flight you are attempting to export before you begin exporting the flight; this includes gauges (which may be updated) or changes basic MSFS 2002 files used by the flight scenario.

To include all other required files (for example, gauges and scenery files), click the button labeled "Add/Remove Other Files". This vital operation is depicted in figure 4.13 and fig 4.14.

✎ *To change the location of the export file, click the Select button located to the right of the default export file name and path. This is important is you want to keep your exported files separate from any official "*.PTT" files which you may have imported at a previous time.*
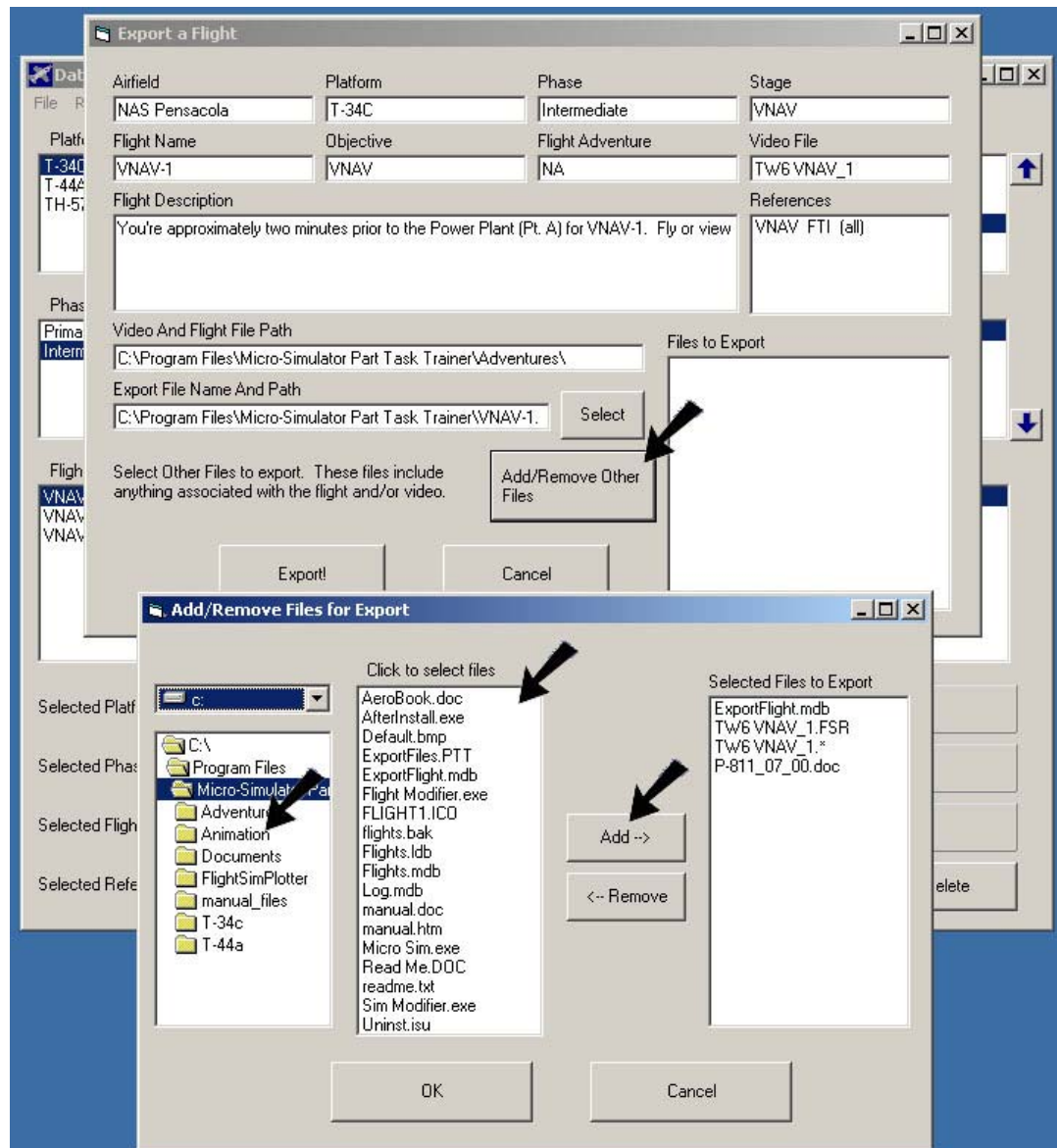

Figure 4.13

Navigate the computer or network directories so that desired files appear in the "Click to select files" list box. Highlight the desired files and click "Add ->" to move the files into the "Selected Files to Export" list. The screen will then look like figure 4.14. To remove the file from the list, select it in the "Selected Files to Export" box and click "<- Remove".

Once the "Selected Files to Export" list is complete, select the "Export!" button to continue. The list of selected files will appear in the original export screen, as in figure 4.14.
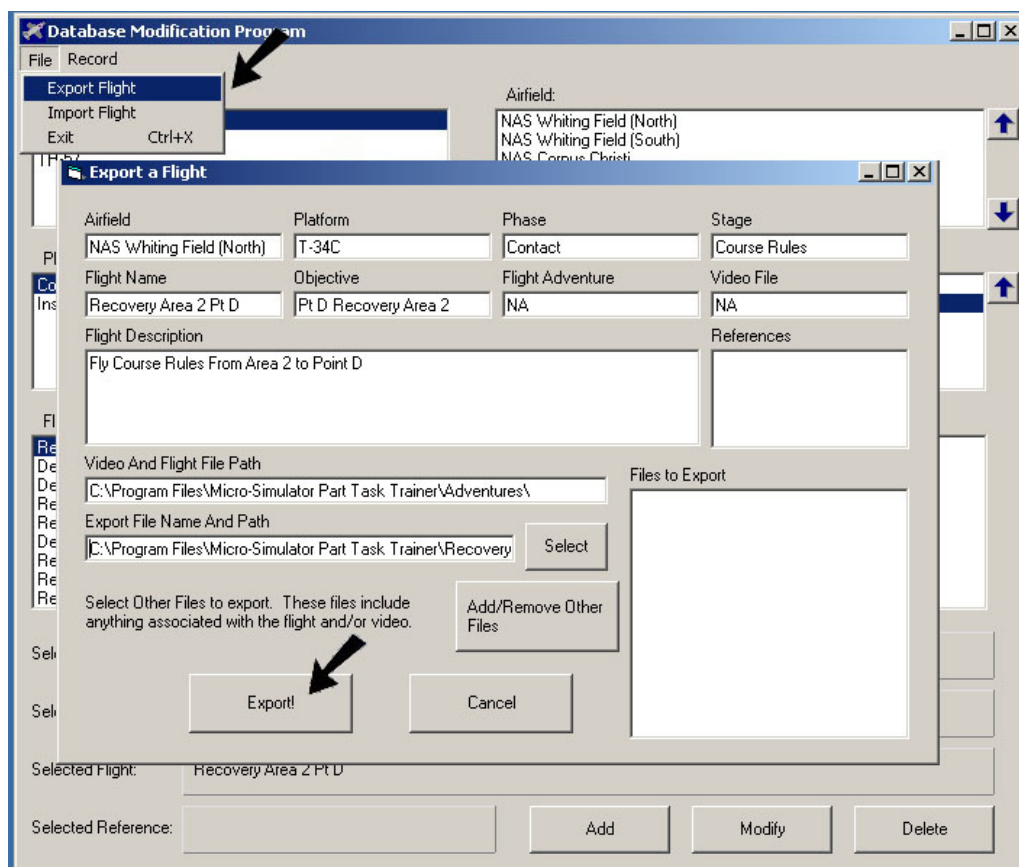

Figure 4.14

Once all required files have been selected, click the "Export!" button.

The Flight Modifier program will take the database information, the selected files, and other files directly referenced in the database (the adventure files, references, and animation files) and add them to a "*.PTT" file located in the designated directory.

This "*.PTT" file can now be shared with other Microsim Part task Trainer 2.0 users.

Utilizing MSFS 2002

To use the PTT 2.0 shell to its highest capacity it will be important learn to fully utilize Microsoft^{TM} Flight Simulator 2002.

The Main "In Flight" Toolbar

After being placed "In Flight" within the MSFS 2002 program, you have access to numerous tools via the "In Flight" Toolbar. The main menu consists of:

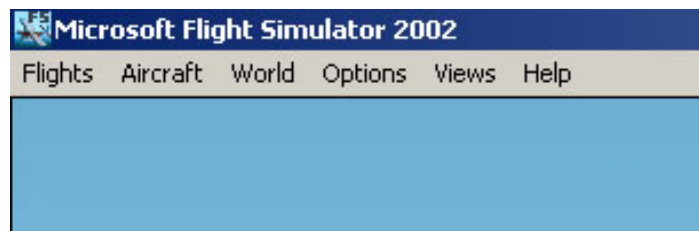**Flights, Aircraft, World, Options, Views, and Help.** (See figure 5.1)

Figure 5.1

From this MSFS 2002 toolbar you can access drop-down menus which will allow the user to:

Reset/select any given flight, create a MSFS 2002 flight plan (to practice a cross-country), choose the time and season of the flight, alter the weather (clouds, precipitation, winds at various flight levels), create system failures (to practice procedures), access and use a "map view" function which allows the user to view their location and flight path (visually referencing navaids and airways), alter the simulate rate (to speed up demonstration videos), assign controls (keyboard and joystick, etc.), adjust display settings to best suit your needs, create and access flight videos, access aircraft instruments (including the autopilot), interact with MSFS 2002 Air Traffic Control which gives the user specific ATC instructions/comms and AI-traffic warnings, access multiple views beyond just the forward cockpit view, and finally to access the MSFS Help tools.

Flights

The "Flights" drop down menu is the most basic of the various menus. From here you can select a new flight from within the MSFS 2002 database, or more likely just reset your current flight. (See figure 5.2)

Figure 5.2

One of the convenient tools MSFS 2002 provides is the ability to interlink computers and fly in a "Multiplayer" environment. By learning to use the multiplayer functions of MSFS 2002 students can learn to practice Formation flights.

Figure 5.3

✪ *Although not essential for using MSFS 2002, the Flight Planner tool provides the user with the ability to plan long flights and access information concerning various airways and airspaces along their route.*

Aircraft

From within the "Aircraft" menu the user can select an appropriate aircraft, check exact fuel states, crate various system failures, and access a set of basic "kneeboard" reference sheets.
(See figure 5.4)

✎ *We recommend that a student first develop a familiarity with both the PTT 2.0 and MSFS 2002 programs before attempting to fail systems to practice partial-panel and/or emergency procedures.*

Figure 5.4

World

The "World" menu is filled with a number of tools with which every MSFS 2002 and PTT 2.0 user should become familiar. From this menu you gain access to the environmental elements related to your flight. (See figure 5.5)

Figure 5.5

✪ **Adjusting the "time & season" can be important if you wish to more accurately depict a potential flight "time" and/or "season" when a training flight may occur.**

Weather. The "weather" tools can adjust things such as visibility, winds (strength, direction, gust force, varying winds at different flight levels), precipitation amounts and types, cloud levels and types, and even download "real weather" conditions from MSN websites provided by Jeppesen DataPlan databases. (See figure 5.6 for the basic weather tool menu)

Figure 5.6

 Although you can adjust the weather parameters from the basic weather menu, altering elements like multiple winds levels requires the advanced weather menus. (See figure 5.7)
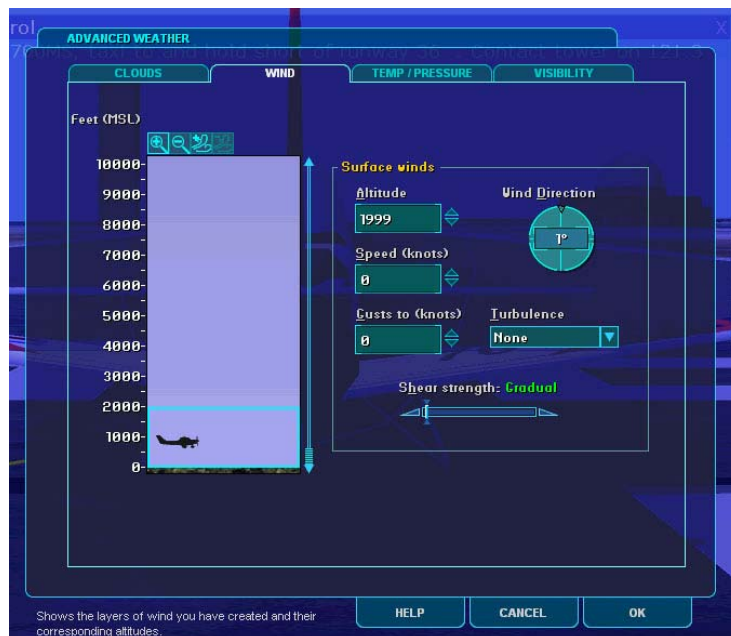

Figure 5.7

Map View. The "Map View" menu options provide a distinct "In Flight" advantage to a flight student who is learning the basics of airway/airspace navigation. This tool provides a graphic representation of the local (and world-wide) airways to navigate in and around, and symbols of all the local (and world-wide) navaids and airfields. (See figure 5.8)

Figure 5.7

The basic quick-bar functions are:

"ZOOM IN" -	Simple tool to adjust the detail with which you wish to view the local airspaces and air ways.
"ZOOM OUT" -	Another zoom tool to allow you to see more of the world, and help plan your flight.
"CENTER" -	The center tool, centers the viewable region around your aircraft icon, and help the user view environments more quickly.
"DECLUTTER" -	When you zoom-out this tool will reduce the number of small local fields, to assist with viewing your environment.

Fig 5.8

Options

The "Options" menu gives the user access to the simulation rate of play, control settings of keyboard-keys and joystick/peripherals, the ability to adjust graphic display settings, and "playing" and "creating" flight videos. (See figure 5.9)

Figure 5.9

Goto "Options" >> "controls" >> "Assignments" to view and alter the keyboard hot-key settings. Adjusting the assignments allows each user to customize their personal computers, while allowing PTT 2.0 to setup an easy-to-use default for the keyboard controls. (See figure 5.10)
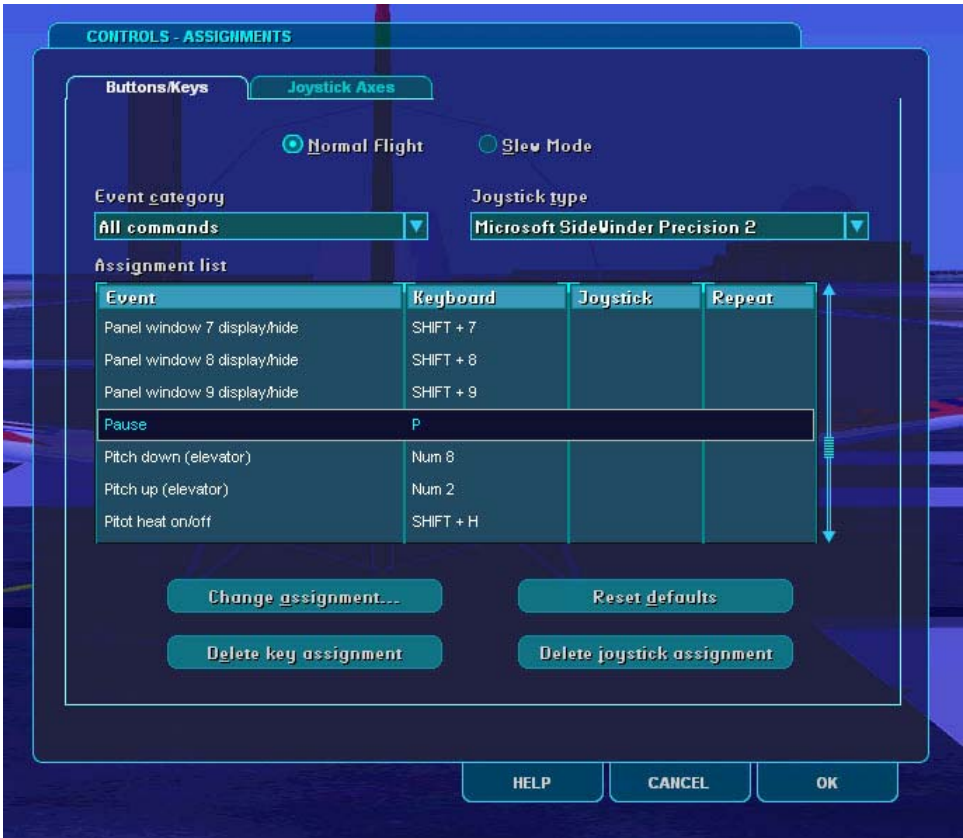

Figure 5.10

When altering "display settings" the user has a great deal of versatility, the display setting control are extremely detailed.

MSFS 2002 promises to perform much better than its predecessors, on almost any given computer. The following tips may help the user run MSFS 2002 run more quickly and smoothly, especially on lower-end computers.

Whether you have a fast or slow computer, experimenting with the settings mentioned here could help you find the best performance for your particular setup and preferences.
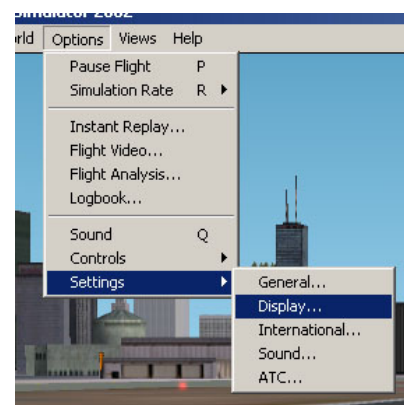

Figure 5.11

☝ *On some computers, running MSFS 2002 in a window instead of full screen may produce better visual results and performance. Try both to see which works best for you. Use the Alt-Enter key combination to switch between these two display modes while the program is running.*

The screen graphic in figure 5.12 shows the "Settings > Display" menu. Realize that the more graphic textures, colors, and other details you add in MSFS 2002, the more of likely your computer may slow in speed. If the "In Flight" performances become "choppy" it may be necessary to reduce some of the graphic details in the display settings menu.

Figure 5.12

✪ For better full-screen performance, match your MSFS 2002 screen resolution to your chosen desktop display resolution. *(You'll find the "Fullscreen display resolution" setting under "Settings > Display > Hardware".)*

To help your computer draw the scenery more quickly and smoothly consider reducing the following settings. Note, the less work for your computer the faster it can draw, and the smoother your flight will be. Some of these settings will make a big difference in what you see in FS2002, and others won't. Experiment to find the balance between looks and performance that best suits your preferences: *(You'll find these settings under "Settings - Display - Scenery". See figure 5.12.)*

- Set Texture Quality to "low" or "medium"
- Set Terrain Mesh Complexity to 50 or lower
- Set Terrain Texture Size to "low" or "medium"
- Set Autogen Density to "normal" or lower
- Set Scenery Complexity to "normal" or lower
- Uncheck the Dynamic Scenery function
- Set Maximum Visibility to its minimum of 60-40 miles
- Uncheck Ground Scenery cast shadows
- Uncheck Extended terrain textures

Hardware display settings can also make a speed and performance difference. For each different computer some experimenting may be necessary to find the best settings. *(You'll find these settings on the "Settings - Display - Hardware" page. See figure 5.13.)*

- Under "Hardware Rendering Options" uncheck Multi-texturing
- Under "Hardware Rendering Options" uncheck Transform and Lighting
- Under "Hardware Rendering Options" uncheck Anti-aliasing

Figure 5.13

Flight Videos

Creating "Flight Videos" or playing videos directly from MSFS 2002 can be accomplished through the "Options" menu on the "In Flight" toolbar. Recording "Flight Videos" provides a student with the ability to not only watch a demonstration video created by an instructor, but to replay their own flights and better critique their "In Flight" performance. (See figure 5.14)

✪ **Replaying a flight can be invaluable as a student Naval Aviator and/or student Naval Flight Officer practice their skills flying with the PTT 2.0 and MSFS 2002 programs.**
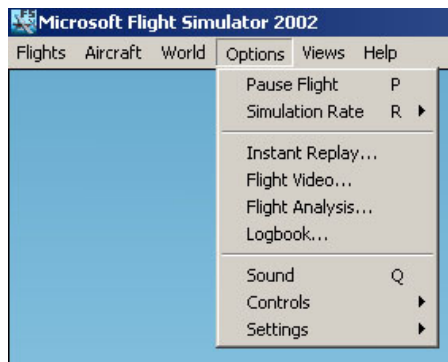

Figure 5.14

☿ *The "Recording Interval" when creating a "Flight Video" affects both the smoothness of the video when replayed, and the file size of the ".FSR" in MSFS 2002.*
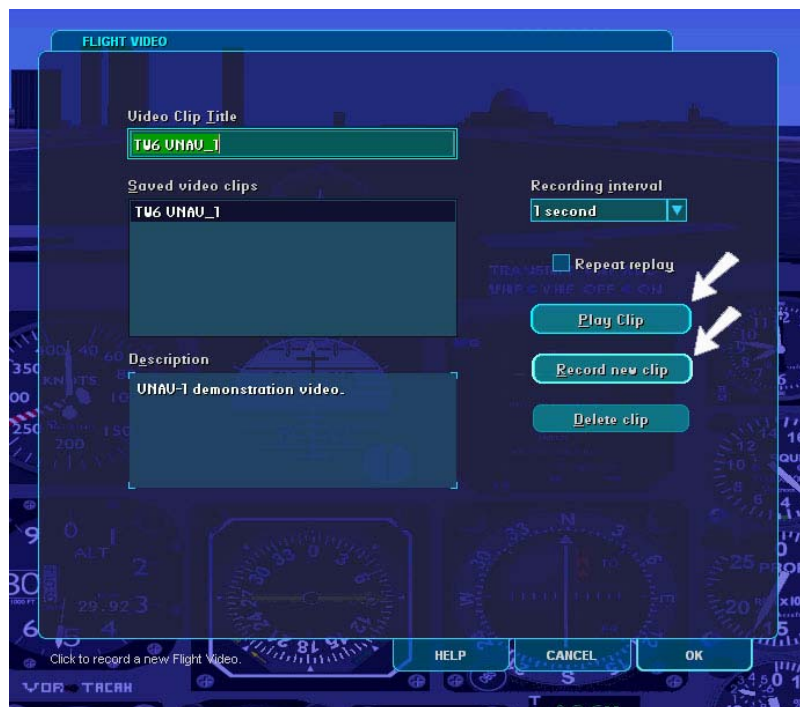

Figure 5.15

The Location and name of each "Flight Videos" is vital. All demonstration videos (and flight scenario files) are titled first by the file's respective Training Wing. (See figure 5.15)

All demonstration videos for the PTT 2.0 shell are stored in the "…/MPTT/animation" folder. However, the default location where "Flight Videos" are stored for MSFS 2002 is the "…/fs2002/flights/myflts" folder.

☛ **Any "Flight Video" created in MSFS 2002 must be relocated.**

☛ **Micro-Simulator PTT 2.0 removes any and all "*.FSR's" in the default "…/fs2002/flights/myflts" folder, each time it loads a new demonstration video.**

Figure 5.16

The actual saved name for the recorded "Flight Video" is entered from the screen depicted in figure 5.16, as well as any description/notes the user may wish make a part of the video.

✆ *Again, it is vital the after creating a "Flight Video" you relocate the "*.FSR" file to avoid the PTT 2.0 shell removing or deleting the video, when it plays its next "*.FSR".*

Any "*.FSR" video can be added to the PTT 2.0 shell-database via the "Flight Modifier.exe" program as noted in Chapter 4. The user can create an entire section dedicated solely to recorded flights he/she wishes to keep to track the progress with their training.

Views

From the "Views" menu the user can access the Air Traffic Control AI-program, various aircraft views, and the T-34C autopilot (particularly important for ANAVs and VNAVs).
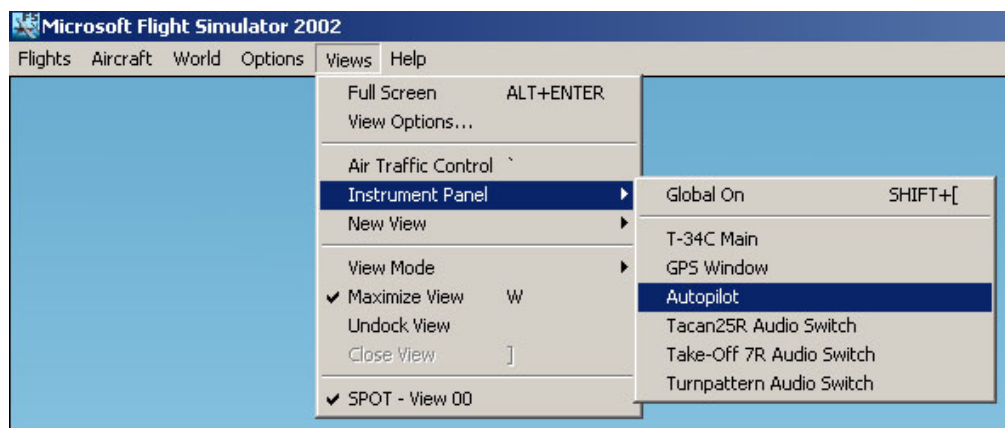

Figure 5.17

The Autopilot. The T-34C "Autopilot" selections bring up a panel from which a user can alter courses, altitudes, and ascent and descent rates. The autopilot is turned "on" and "off" via the grey button on the left side of the panel. When the autopilot is "on" a green light will appear on the right side of the panel. (See figure 5.18)

☞ *All MSFS 2002 panels can be dragged and placed on the screen as needed.*

Figure 5.18

💣 ***Warning: if the Altitude input in the autopilot is above or below the current altitude, but the Rate of Ascent/Descent is set opposite of the intended change in altitude, the autopilot will not function properly. (It will typically force the aircraft to remain at its current altitude or descend slowly.)***

Air Traffic Control. **A student Naval Aviator or student Naval Flight Officer can obtain basic practice in communications with various ATC situations with MSFS 2002.** The basic communications practices of tuning up frequencies, setting squawk transponder codes, switching frequencies, and making various ATC calls and requests can all be accomplished by interacting with the MSFS 2002 ATC-Artificial Intelligence program.

☙ *If the sound is turned "on" the ATC communications will be played through speakers. All AI-Traffic will also speak through via the ATC-AI program.*

Figure 5.20

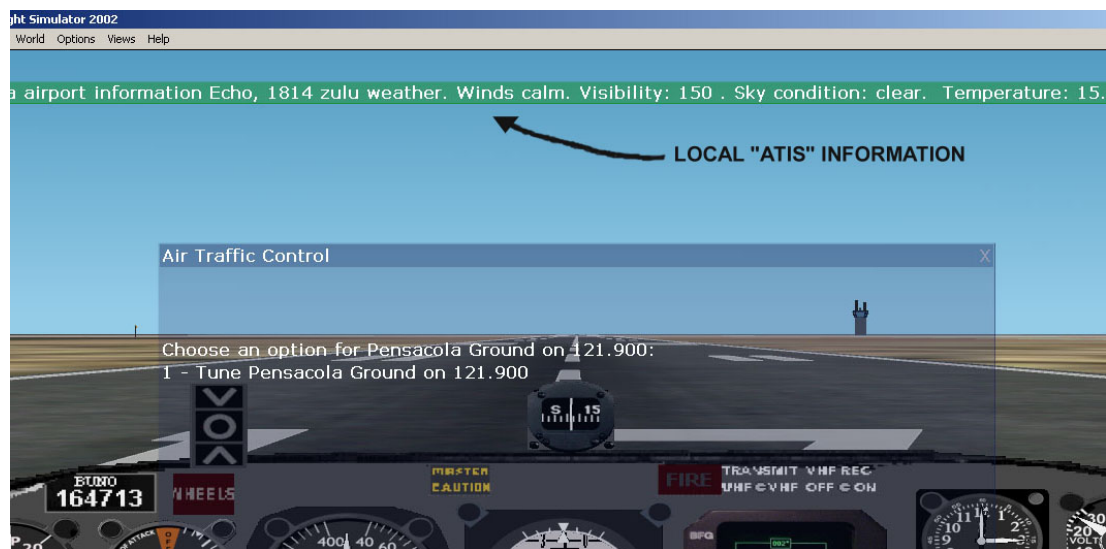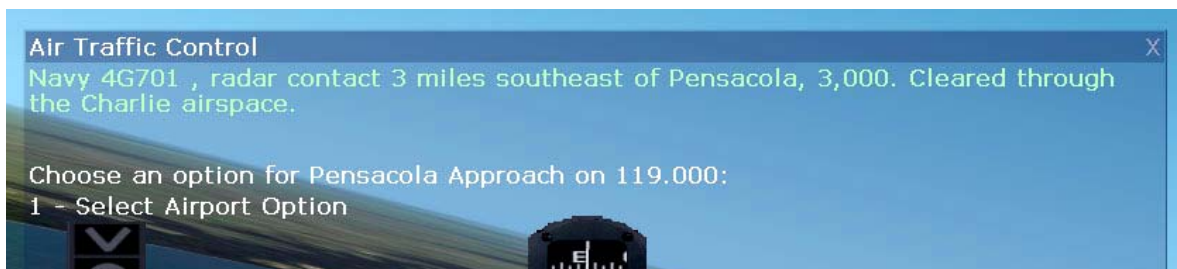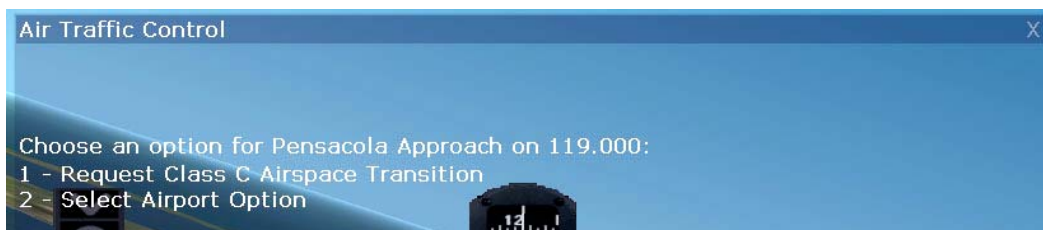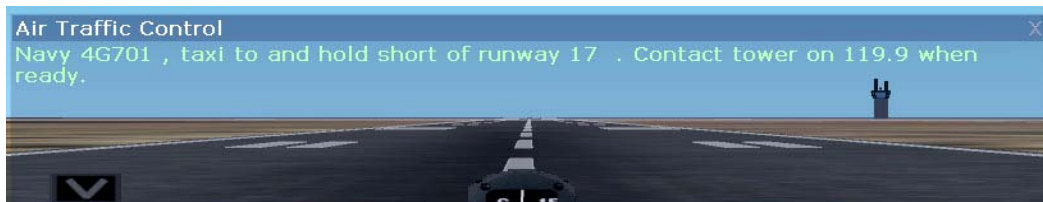✪ **ATIS information is always available through the ATC-AI program.**

Figure 5.21

☛ *The MSFS 2002 ATC-AI program will **NOT** allow a user to "step-on" the transmissions of other traffic of the local ATC itself.*

Observe a typical MSFS 2002 departure with the ATC-AI program activated.

Air Traffic Control   X
Navy 4G701 , taxi to and hold short of runway 17 . Contact tower on 119.9 when ready.

Air Traffic Control   X
Navy 4G701 , you are leaving my airspace, frequency change approved.

Choose an option for Pensacola Tower on 119.900:
1 - Request Touch And Go
2 - Request Full Stop Landing

Air Traffic Control   X
Pensacola Tower, Navy 4G701 , ready for departure to the east at runway 17 .

Air Traffic Control   X
Navy 4G701 , you are leaving my airspace, frequency change approved.

Choose an option for Pensacola Tower on 119.900:
1 - Request Touch And Go
2 - Request Full Stop Landing

Air Traffic Control   X

Choose an option for Pensacola Approach on 119.000:
1 - Request Class C Airspace Transition
2 - Select Airport Option

Air Traffic Control   X
Navy 4G701 , Pensacola Approach. Squawk 0212.

Air Traffic Control   X
Navy 4G701 , radar contact 3 miles southeast of Pensacola, 3,000. Cleared through the Charlie airspace.

Choose an option for Pensacola Approach on 119.000:
1 - Select Airport Option

Additional References

For additional information concerning the Microsoft™ Flight Simulator 2002 program, see the official website: http://www.microsoft.com/games/fs2002/

TRAWING FOUR, NAS Corpus Christi
https://cnatra.navaltx.navy.mil/Ctw-4/index.shtm

TRAWING FIVE, NAS Whiting Field
https://www.cnet.navy.mil/naswf/

TRAWING SIX, NAS Pensacola
https://www.cnet.navy.mil/naspcola/trawing6/index.htm

Index

Frequently Asked Questions

(1) Q: I notice the aircraft is vibrating when I play a demonstration video. How can I fix this?

Answer: To fix this situation you must adjust your elevator controls and elevator trim. MSFS 2002 videos are affected some by the control inputs; it is important to minimize any inputs. If inputs are reset properly the vibrations should disappear.

(2) Q: The aircraft appears to be flying in a slight "slip" when the autopilot is engaged, sometimes. Is this normal?

Answer: This occurs occasionally. A quick fix for this problem is to trim out any apparent "slip" turn which may be occurring. If this does not remove the slip, then you must turn off the autopilot temporarily. Then go to the Main "In-Flight" toolbar; select Aircraft/ Realism Settings. Then deselect "Auto-rudder;" and turn it off. Unpause your simulation and reactivate your autopilot to continue your flight.